Lab Assignment
& Solution

Cybersecurity Professional Program

Introduction to Python
for Security

Functions

PY-05-LS5
Bullseye

Note: Solutions for the instructor are shown inside the green box.

Lab Objective

Get familiar with the ***random*** module and implement function separation and execution checks.

Lab Mission

Create a game in which the user guesses a random number and receives the correct answer.

Lab Duration

15–25 minutes

Requirements

- Basic knowledge of Python
- Working knowledge of variables and functions

Resources

- Environment & Tools
    - Windows, macOS, or Linux
        - PyCharm
        - Python 3

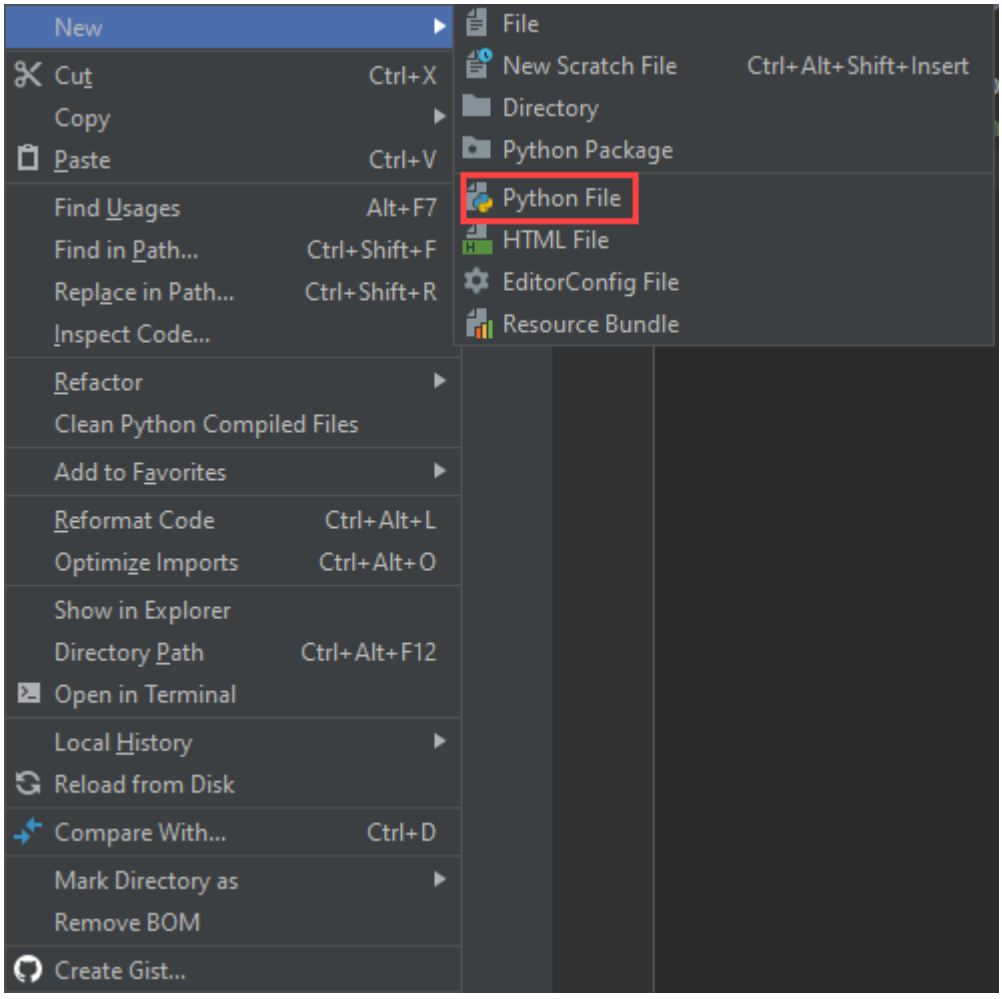
Textbook References

- Chapter 5: Functions
    - Section 2: Code Handling

Lab Task: Random Number Generation with Python

Create two functions that allow the implementation of random number generation and comparison with the user's input.

1. Create a new Python file in PyCharm by right-clicking the project you created and selecting **New** > ***Python File***.



2. Import the ***random*** module.

```
import random
```

3 Define a function that generates a random number.

```
def generate_random():
```

4 In the function, save a random integer between 1 and 10 to a variable and have the function return it.

```
def generate_random():
    number = random.randint(1, 10)
    return number
```

5 Create another function to be the main function.

```
def main():
```

6 The function requests a number from the user and parses it to an integer.

```
def main():
    guessed_number = int(input("Please select a number between 1 and 10: "))
```

7 Invoke the first function and save the random number result to a variable in the function.

```
def main():
    guessed_number = int(input("Please select a number between 1 and 10: "))
    random_number = generate_random()
```

8 Create a condition that checks if the user's number equals the random number and prints a "successful" message in the function.

```
def main():
    guessed_number = int(input("Please select a number between 1 and 10: "))
    random_number = generate_random()
    if guessed_number == random_number:
        print("Successful Guess!")
```

9 If the numbers do not match, print an “unsuccessful” message.

```
def main():
    guessed_number = int(input("Please select a number between 1 and 10: "))
    random_number = generate_random()
    if guessed_number == random_number:
        print("Successful Guess!")
    else:
        print("Unsuccessful Guess!")
```

10 Outside of the function, create a condition that runs the program only if the file is executed directly.

```
if __name__ == "__main__":
    main()
```